

# NUTRIENTS

## Minerals

These are inorganic compounds that cannot be synthesised by the body.

They are essential in adequate amounts; to help control many of the body's processes, as parts of various compounds, and as dissolved ions in body fluids.

### Macrominerals:

Calcium, Phosphorous, Magnesium, Sodium, Chloride, Potassium, Sulphur, Iron and Zinc

| Minerals           | Major Functions   | Sources  |
|--------------------|---|--|
| <b>Calcium</b>     | Helps: <ul style="list-style-type: none"> <li>to build strong bones and teeth</li> <li>with bone formation and for bone density</li> <li>the heart to beat</li> </ul> Keeps the muscles healthy and helps them contract                 | Milk<br>Dairy products<br>Sardines<br>Spinach<br>Broccoli<br>Fortified cereals<br>Fortified margarine        |
| <b>Phosphorous</b> | Helps to build strong bones and teeth<br>Forms part of every cell<br>Important in genetic material<br>Forms part of phospholipids (phosphorous-containing lipids)<br>Is used in the transfer of energy<br>Is important in pH regulation | Meat<br>Poultry<br>Fish<br>Eggs  |
| <b>Magnesium</b>   | Is vital to many basic metabolic functions as an activator of enzymes<br>Aids in bone growth and the function of nerves and muscles   | Dark green leafy vegetables<br>Legumes (dried beans)<br>Nuts and seeds<br>Whole grains<br>Milk<br>Wheat bran |
| <b>Sodium</b>      | Is an electrolyte that helps control fluid balance in cells<br>Aids in muscle flexing and the flow of nerve impulses  | Table salt<br>Soy sauce<br>Cheese<br>Smoked and cured meats<br>Processed and canned foods                    |

|                  |   |   |
|------------------|---|---|
| <b>Chloride</b>  | An electrolyte that helps control fluid balance in cells<br>Helps maintain pH balance<br>Forms part of the acid found in the stomach which is necessary for digestion   | Table salt<br>Seafoods<br>Milk<br>Meat<br>Eggs  |
| <b>Potassium</b> | Is an electrolyte that aids in the control of blood pressure and water balance in cells<br>It helps maintain pH balance<br>Vital for muscle contraction and nerve impulses<br>Helps with proper function of heart and kidneys<br>Is necessary for carbohydrate and protein metabolism   | Fruits<br>Vegetables<br>Milk<br>Meat<br>Poultry<br>Cereals<br>Legumes                                 |
| <b>Sulphur</b>   | Forms part of proteins (it has a stabilising function)<br>Forms part of the vitamins biotin and thiamin, and the hormone insulin<br>Is involved in body's detoxification processes  | All protein-containing foods<br>Meats<br>Fish<br>Poultry<br>Eggs<br>Milk<br>Cheese<br>Legumes<br>Nuts |
| <b>Iron</b>      | Healthy blood - helps red blood cells carry oxygen<br>Iron plays a role in maintaining a healthy immune system<br>Helps with brain development and function<br>Iron forms part of enzyme reactions that carry messages from one nerve cell to another   | Fortified cereal<br>Dried beans<br>Meat<br>Chicken<br>Liver<br>Kidney<br>Egg yolks Seafoods           |
| <b>Zinc</b>      | Involved in the synthesis or degradation of major metabolites such as carbohydrates, lipids and proteins<br>Involved in enzyme activity<br>Helps in the stabilization of the protein and genetic structure in cells<br>Involved in communication and division of cells<br>Helps with maintenance of a healthy immune function | Meat<br>Fish<br>Poultry<br>Milk products<br>Whole grain cereals<br>Dried beans                        |

**For further, personalized and more detailed information, please contact a dietitian registered with the Health Professions Council of South Africa. References from the scientific literature used to compile this document are available on request.**

#### **Human Nutrition | Menslike Voeding**

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